

REMARKS

Claims 1, 2, 8, and 9 are currently pending in this application. By this response to the non-final Office Action dated September 29, 2009, claims 1 and 2 are amended, and claims 10 and 12 are canceled without prejudice. Support for the amendments is found in the specification, including the claims, as filed. No new matter has been introduced. Favorable reconsideration of the application in light of the foregoing amendments and following comments is respectfully solicited.

In section 2 of the Office Action, claims 1, 2, 8-10, and 12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,008,166 (Aoki) in view of U.S. Patent App. Pub. No. 2003/0215747 (Kim). Applicant respectfully traverses.

Claim 1

Amended independent claim 1 recites, inter alia,

. . . each of the structures extends primarily in a lengthwise direction and has a width w in a widthwise direction orthogonal to the lengthwise direction, and a photomask and the photosensitive material are moved in the widthwise direction relative to each other by a distance less than w between the first and second exposures.

(emphasis added)

The Office Action relies on Aoki, col. 6, which states “photomask 20 is moved in the longitudinal direction of red signal electrodes 15R (the direction of the stripes)” (col. 6, lines 21-23) and “dyeable layer 19 is subjected to the second exposure. The distance over which photomask 20 is moved is set to a value larger than any dust that is expected to adhere to the photomask” (col. 6, lines 25-32). Further, Aoki, col. 7, lines 32-34 states “photomask 20 is moved by three pitches (3P) in the direction orthogonal to the . . . stripes” (*see also* Office

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Action, page 4, lines 14-16 (“Aoki also teaches that the photomask can be moved . . . by 3 pitches of the pattern in an orthogonal direction”)) and col. 8, lines 32-34 states “the photomask . . . is moved horizontally by $1 \times \frac{1}{2}$ pitches ($P1 \times 1\frac{1}{2}$) horizontally.”

Aoki does not disclose or render obvious that “a photomask and the photosensitive material are moved in the widthwise direction relative to each other by a distance less than w between the first and second exposures,” as recited in claim 1. Instead, as noted above, Aoki discloses in the lengthwise (or “longitudinal,” as discussed in Aoki) direction movement by a distance “larger than any dust that is expected to adhere to the photomask.” However, this is not in the recited widthwise direction, nor does it disclose, either expressly or inherently (*i.e.*, necessarily), or render obvious that the distance moved is less than the width *w* of the structures in the widthwise direction, as recited in claim 1.

As to movement in the recited widthwise (or “orthogonal,” as discussed in Aoki) direction, Aoki, col. 7, lines 32-34 states “photomask 20 is moved by three pitches (3P) in the direction orthogonal to the . . . stripes” (*see also* Office Action, page 4, lines 14-16 (“Aoki also teaches that the photomask can be moved . . . by 3 pitches of the pattern in an orthogonal direction”)) and col. 8, lines 32-34 states “the photomask . . . is moved horizontally by $1 \times \frac{1}{2}$ pitches ($P1 \times 1\frac{1}{2}$) horizontally.” Each of these disclosed widthwise movements is greater than – not less than – the width *w* of the structures.

Also, although, as noted at page 3, lines 3-5 of the Office Action, col. 8, lines 47-48 states “the photomask may be moved in any way,” this statement merely summarizes the different movements described earlier in the same paragraph at col. 8, lines 37-47, and does not broadly disclose that *any* distance in *any* direction is consistent with the technique disclosed by Aoki, as page 3 of the Office Action appears to suggest is disclosed by this sentence in Aoki.

Instead, as explained above, Aoki discloses movements with distance of $3P$ or $1\frac{1}{2}P$ – not less than width w of the structures.

For at least the above reasons, Aoki fails to render obvious at least that “a photomask and the photosensitive material are moved in the widthwise direction relative to each other by a distance less than w between the first and second exposures,” as recited in claim 1. Kim, which is cited with respect to its teachings of forming electrodes by depositing a photosensitive layer, does not bridge the above gaps between claim 1 and Aoki. Thus, independent claim 1 is not obvious in view of the cited art. Accordingly, Applicant respectfully requests withdrawal of the rejection of independent claim 1, and claim 8 which depends thereon.

Claim 2

Amended independent claim 2 recites, *inter alia*,

. . . exposure parts of a photomask for forming the electrodes are disposed periodically with a pitch p , and a photomask and the photosensitive material are moved relative to each other by two or more integral times the distance p between the first and second exposures.

(emphasis added)

Although col. 7, lines 31-34, which is relied upon by the Office Action, states “photomask 20 is moved by three pitches ($3P$) in the direction orthogonal to [the] stripes,” it is significant to note that col. 6, lines 10-15 states “[t]he light transmitting portions 20a of photomask are arranged at pitches each three times the pitch P (FIGS. 4 and 7) of stripe signal electrodes.” See FIG. 5C (light transmitting portions 20a in chrome portion 22 of mask 20 spaced at distance $3P$); FIG. 5D (related features RFa, formed by exposure using light transmitting portions 20a, spaced at distance $3P$). In other words, although neighboring electrodes 15R and 15G may be arranged with pitch P , the exposure parts of mask 20 for forming the electrodes, light transmitting portions 20a, are arranged with pitch $3P$. This is because the

three different types of electrodes (red, green, and blue) are interleaved, with each color formed as a separate series of steps. Accordingly, when Aoki describes moving the mask by distance $3P$, that distance is equal to the pitch of light transmitting portions 20a on mask 20, and is not an integral multiple of two or more of that distance. Thus, Aoki discloses the photomask is simply moved the distance between light transmitting portions 20a of the photomask – not “by two or more integral times the distance,” as recited in claim 2.

For at least the above reasons, Aoki fails to render obvious at least that “a photomask and the photosensitive material are moved relative to each other by two or more integral times the distance p ” at which “exposure parts of a photomask for forming the electrodes are disposed periodically,” as recited in claim 2. Kim, which is cited with respect to its teachings of forming electrodes by depositing a photosensitive layer, does not bridge the above gaps between claim 2 and Aoki. Thus, independent claim 2 is not obvious in view of the cited art. Accordingly, Applicant respectfully requests withdrawal of the rejection of independent claim 2, and claim 9 which depends thereon.

In view of the above remarks, Applicant respectfully submits that the application is in condition for allowance, and respectfully requests the Examiner’s favorable reconsideration as to allowance. The Examiner is invited to contact the Applicant’s representative listed below.

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To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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